

Massachusetts Division of Health Care Finance and Policy

The Financial Health of Massachusetts Hospitals, FY97-FY00

July 2002

Linda Ruthardt, Commissioner



Jane Swift, Governor
Commonwealth of Massachusetts

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Executive Office of Health and Human Services

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Executive Summary

In FY00, for the first time in four years, Total Excess of Revenues, Gains, and Other Support Over Expenses increased suggesting an upturn in profitability for the industry as a whole, albeit nowhere near the level it was in FY97. This increase likely reflects the greater contribution of larger, more profitable hospitals to the industry-wide aggregate.

It is necessary to look across a four-year period to put this improvement in context. Between FY97 and FY00, Total Expenses grew at an average annual rate of 5.7%. Total Revenues grew at an average annual rate of 4.56% for the same period. Massachusetts acute hospitals continued to lose money on operations. Operating results for Massachusetts hospitals continued to be among the lowest in the United States, and median

Operating and Total Margins declined for the industry in FY00. Adding to the health care industry's financial difficulties was the economic recession that gripped the nation and region last year. Investment losses were reflected in the decline in median Non-operating Margins in FY00.

On a favorable note, liquidity indicators remained relatively stable over the past year. Solvency (Capital Structure) ratios improved or remained unchanged from the previous year. Additionally, hospitals financed more of their assets from equity (as opposed to debt) as seen in the increase in the Equity Financing Ratio, and Fund Balance increased 12% from FY99 to FY00. Despite the increase in Equity Financing Ratio, Cash Flow to Total Debt continued to decline, reflecting the continued decline in profitability.

Forward

The Division of Health Care Finance and Policy (DHCFP) collects, analyzes, and disseminates information with the goal of improving the quality, efficiency, and effectiveness of the health care delivery system in Massachusetts. In addition, the Division administers the Uncompensated Care Pool (UCP), a fund that reimburses Massachusetts acute care hospitals and community health centers for services provided to uninsured and underinsured people.

Satisfying the Need for Health Care Information

The effectiveness of the health care system depends in part upon the availability of information. In order for this system to function properly, purchasers

must have accurate and useful information about quality, pricing, supply, and available alternatives. Providers need information on the productivity and efficiency of their business operations to develop strategies to improve the effectiveness of the services they deliver. State policy makers need to be advised of the present health care environment as they consider where policy investigation or action may be appropriate.

As part of its health care information program, the Division publishes reports that focus on various health care policy and market issues.

Mission

The Mission of the Division is to improve the delivery and financing of health care by providing information, developing policies, and promoting efficiencies that benefit the people of Massachusetts.

Our goals are to:

- assure the availability of relevant health care delivery system data to meet the needs of health care purchasers, providers, consumers, and policy-makers
- advise and inform decision makers in the development of effective health care policies
- develop health care pricing strategies that support the cost-effective procurement of high quality services for public beneficiaries
- improve access to health care for low-income uninsured and underinsured residents.

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The Financial Health of Massachusetts Hospitals, FY97-FY00

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Introduction

The recent financial performance of Massachusetts hospitals provides an important context for health policy discussions and decisions. *The Financial Health of Massachusetts Hospitals* details the fiscal performance of the Massachusetts acute care hospital industry from FY97 through FY00 using data from hospital-submitted financial statements contained in the DHCFP Form 403 Cost Report. Due to the limitations of the data source, this analysis only captures the financial performance of individual hospitals, separate from their corporate parents or other affiliated entities. Because the number of acute hospitals comprising the industry has decreased over time, the number of hospitals summarized in this report differs each year (decreasing from a high of 76 in FY97, to a low of 68 in FY00).

Generally accepted indicators are used to summarize industry performance across the categories of Profitability,¹ Liquidity, and Solvency (Capital Structure). Due to the large variation in individual performance of hospitals (resulting from large outlying values), medians were determined to better reflect the character of the entire industry. In addition, using the industry median (as opposed to the mean) was necessary in order to compare the Massachusetts hospital industry to the Northeast (Connecticut, Maine, Massachusetts, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, and Vermont) and National medians used in the 2001 Almanac of Hospital Financial and Operating Indicators,² a well recognized source of industry benchmarking data.

The first section of this report summarizes industry trends for Revenues; Expenses; and Excess of Revenues, Gains, and Other Support over Expenses. This overview is followed by an in-depth look at industry financial performance. Each section includes:

- a discussion of the specific category of financial health (i.e., Profitability, Liquidity, Solvency)

- a data table showing industry performance indicators within this category
- Northeast regional and National medians, for benchmarking purposes
- a summary of findings for the industry.

The abbreviated tables in each section have been excerpted from the industry tables found in the appendices.

Revenue, Expense, and Surplus/Deficit Trends

Hospital Revenues

Hospitals earn their revenue in a variety of ways:

- by providing medical services
- through donations and grants from individuals, foundations, or the government
- through investments.

Hospital revenues can be grouped into two main categories: Operating Revenue and Non-operating Revenue.

Operating Revenue

Operating Revenue—income earned primarily by delivering patient care—is the primary way that hospitals generate revenue.

Almost 85% of Total Hospital Revenue for the Massachusetts acute care hospital industry comes from Operations. Operating Revenue is further categorized into Operating Revenue from Delivery of Patient Care, including Premium Revenue generated from contractual arrangements between a prepaid health care plan and the hospital, and Other Operating Revenue from non-patient care related activities such as parking, cafeteria, gift shop, etc.

Non-operating Revenue

Non-operating Revenue includes all gains (losses) due to activities peripheral to the mission of the hospital. Non-operating Revenue can be grouped into three categories: Investment Income, Non-operating Gains (Losses), and Other Non-operating Revenues. Investment Income

includes investment income from unrestricted funds, and donations and contributions from unrestricted endowments. Non-operating Gains (Losses) include gains (losses) from the sale of property and gains (losses) from the sale of investments. Other Non-operating Revenues include

such things as the net rental of facilities not used in operations.

Total Revenue—the sum of Operating and Non-operating Revenue—is referred to on hospital financial statements as Total Unrestricted Revenue, Gains, and Other Support.

(See Figure 1)

Industry Findings

Patient Care Related Revenue increased from FY97-FY00. In contrast, Non-operating Revenue fell between FY97 and FY99. However, in FY00, Non-operating Revenue began to increase again.

Figure 1. Massachusetts Acute Hospital Industry Total Revenues by Category, FY97-FY00

	FY97	FY98	FY99	FY00	% Change FY99-FY00	Avg. Annual % Change FY97-FY00
Operating Revenue	\$9,661,768,873	9,953,222,789	10,719,506,620	11,300,700,577	5.4%	
Patient Care-related Revenue ³	8,681,284,509	8,804,870,631	9,254,355,759	9,757,286,310	5.4%	
Other Operations-related Revenue	980,484,364	1,108,896,877	1,455,133,625	1,608,292,129	10.5%	
Other Revenue (e.g. Cafeteria, Parking, etc.)	557,018,636	423,465,728	685,431,149	769,702,476	12.3%	
Net Assets Released from Restriction Used for Operations	423,465,728	685,431,149	769,702,476	838,589,653	8.9%	
Non-operating Revenue	542,832,463	534,693,143	324,139,706	362,442,349	11.8%	
Investment Income	219,001,874	297,031,634	186,305,799	182,486,302	-2.1%	
Non-operating Gains (Losses)	323,830,589	237,661,509	137,833,907	179,956,047	30.6%	
TOTAL REVENUE	\$10,204,601,336	10,487,915,932	11,043,646,326	11,663,142,926	5.6%	4.56%

Hospital Expenses

The main categories of expenses include salaries,⁴ supplies,⁵ depreciation, amortization, interest, and bad debt expenses.

Depreciation and Amortization

When any entity (including hospitals) buys or enters into a long-term lease for equipment, buildings, or other fixed assets, it does not expense, or write off, the entire

cost of purchasing that fixed asset in one accounting period. Instead, it recognizes the cost over the estimated life of the asset, and records the appropriate portion as an expense during the current accounting period. The process of expensing a fixed asset for its expected length of use is called depreciation. Similarly, when a hospital purchases an intangible asset, the process of expensing its cost over the expected length of its life is called amortization. Intangible

assets consist of the nonphysical assets of a business such as goodwill, copyrights, and patents. The entire cost of the asset is spread over the anticipated life of the asset instead of recognizing it all at once in the first year.

Interest

Hospitals often borrow money for capital improvement projects, building expansion or other large purchases. Interest expense is

Figure 2. Massachusetts Acute Hospital Industry Total Expenses By Category, FY97-FY00

	FY97	FY98	FY99	FY00	% Change FY99-FY00	Avg. Annual % Change FY97-FY00
Salaries, Fringe Benefits, Purchased Services, and Supplies	\$8,213,046,724	8,778,195,671	9,349,516,404	9,917,744,530	6.1%	6.5%
Depreciation and Amortization	606,661,053	616,203,935	667,892,731	685,822,696	2.7%	
Interest	245,895,804	243,981,956	243,671,558	248,896,855	2.1%	
UCP Pool Assessment	318,227,256	222,565,915	212,805,953	218,786,626	2.8%	
Provision for Bad Debts	392,057,240	410,371,149	461,354,228	466,454,927	1.1%	
TOTAL EXPENSES	\$9,775,888,077	10,271,318,626	10,935,240,874	11,537,705,634	5.5%	5.7%

Figure 3. Revenue; Expenses; and Excess Of Revenue, Gains, and Other Support over Expenses, FY97-FY00

	FY97	FY98	FY99	FY00	% Change FY99-FY00	Avg. Annual % Change FY97-FY00
Total Unrestricted Revenue, Gains, and Other Support	\$10,204,601,336	10,487,915,932	11,043,646,326	11,663,142,926		
Total Expenses	\$9,775,888,077	10,271,318,626	10,935,240,874	11,537,705,634		
Excess Of Revenue, Gains, and Other Support over Expenses	\$428,713,259	216,597,306	108,405,452	125,437,292	16%	-28%

the amount a hospital must pay in the current accounting period for borrowing funds.

Provision for Bad Debts

The provision for bad debts is an estimate of a period's patient care charges that are believed to be uncollectible. Hospitals use past experience, present market condition, and analysis of the outstanding balance to compute the estimate.

Industry Findings

Hospital expenses continued to grow in FY00, continuing an upward trend. The bulk of the increase in expenses is attributable to increased costs for labor and supplies.

(See Figure 2)

Hospital Surplus/Deficit Trends

Accountants typically use the phrase "Excess of Revenue, Gains, and Other Support over Expenses" instead of "profit" or "surplus" when referring to not-for-profit hospitals. These two terms are used interchangeably in this report. The table below summarizes Total Revenue, Total Expenses, and Excess of Revenue, Gains, and Other Support over Expenses for the industry.

(See Figure 3)

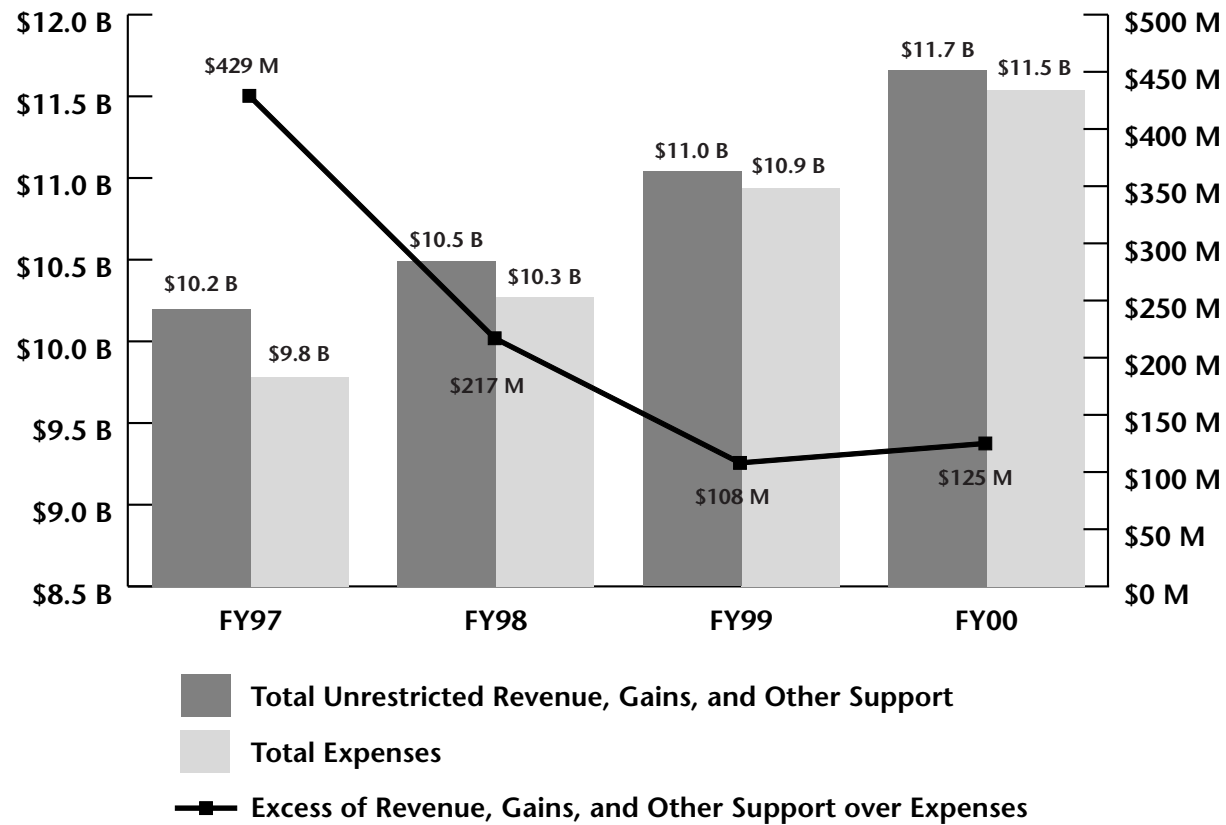
Industry Findings

Excess of Revenues, Gains, and Other Support Over Expenses (i.e. Surplus/Deficit) showed a downward trend from FY97 to

FY99. In FY00, however, this value increased, implying that profitability improved for the industry as a whole, albeit nowhere near the level it was in FY97. This increase reflects the greater contribution of larger, more profitable hospitals to the industry-wide aggregate.

(See Figure 4)

Figure 4. Massachusetts Acute Hospital Industry Revenue, Expense, and Surplus/Deficit Trends FY97-FY00



Financial Analysis

Profitability

Profitability refers to financial gains and losses. Three indicators of Profitability are discussed below.

Total Margin is a ratio which measures overall gains and losses, and includes all net income including Non-operating Income from both investments and sale of assets. Depending on a hospital's reporting process, some Investment Income may be included in "Other Operating Income."

Operating Margin is a ratio which expresses the relationship between Operating Income and Total Revenue, and reflects the profitability of performing daily hospital business. Operating Income includes income

generated from such sources as patient care, research, gift shops, parking, and cafeterias.

Non-operating Margin is a measure which expresses the relationship between Non-operating Gains and Total Revenue. It is an important indicator to consider because Non-operating Gains can be used to subsidize eroding Operating Margins.

Positive Total and Operating Margins signify strong financial health, indicative of profitable daily operations and sound investments. The higher the margin, the greater the profitability and the better the financial health. Conversely, a negative margin in either category may indicate financial trouble. A negative Operating Margin usually appears as the first sign of financial difficulty.

Figure 5. Massachusetts Acute Hospital Industry Median Profitability Indicators, FY97-FY00

<i>Profitability</i>	FY97 (N=76)	FY98 (N=75)	FY99 (N=72)	FY00 (N=68)	Northeast Median FY00	National Median FY00
Total Margin	3.58%	2.03%	1.16%	0.88%	2.3%	3.3%
Operating Margin	0.66%	-1.52%	-1.07%	-1.37%		
Non-operating Margin	2.12%	2.38%	2.02%	1.87%		

Over time, negative margins cause further financial problems with liquidity and coverage of debt obligations.

Industry Findings

- Total, Operating, and Non-operating Margins continued to decline in FY00, indicating continued poor profitability.
- The median Total Margin for the Massachusetts acute hospital industry continued to fall below the Northeast and National medians.

(See Figure 5)

More than one-third of acute care hospitals had negative Total Margins in FY00. Between FY99 and FY00, the number

of hospitals with negative Total Margins increased from 22 to 26 (out of a total count of 68). The number of acute hospitals with negative Operating Margins remained relatively stable between FY99 and FY00.

(See Figure 6)

Liquidity

Liquidity is a measure of how readily the hospital industry can generate cash for normal business operations. Various ratios are used to demonstrate how close hospitals are to the average standards of cash needed to cover daily expenses and short-term debt obligations. These ratios are described below.

Days Cash on Hand (short-term) is a ratio which measures the number of days of cash that a hospital has on hand for short-term working capital uses. An industry standard is 20 days of short-term cash on hand.⁶

Days Cash on Hand (all sources) is a ratio which measures the number of days of average cash expenses that the hospital maintains in cash and marketable securities. It is a measure of total liquidity, both short-term and longer-term, and includes Current and Non-current Assets which are limited as to use. A high value for this indicator usually implies a greater ability to meet both short-term obligations and long-term capital replacement needs.

Figure 6. Massachusetts Hospitals with Negative Total and Operating Margins, FY99 and FY00

	Total Margin				Operating Margin			
	FY99		FY00		FY99		FY00	
	Count	%	Count	%	Count	%	Count	%
Negative	22	32.4%	26	38.2%	41	60.3%	42	61.8%
Positive	46	67.6%	42	61.8%	27	39.7%	26	38.2%
TOTAL	68	100.0%	68	100.0%	68	100.0%	68	100.0%

Current Ratio measures a hospital's ability to cover present liabilities using current assets. Current assets include cash, accounts receivable, and short-term securities. Current liabilities include accounts payable and current payments on long-term debt. There is an industry standard of a level of one (1), which signifies that all current liabilities could be adequately covered by the hospital's existing current assets.

Days in Accounts Receivable is a ratio that measures how many days it takes for a hospital to receive final payment of expected revenues. A high number of days affects liquidity because it represents

cash that is unavailable for use in daily operations.

Average Payment Period is a ratio that measures how many days it takes to pay current liabilities. As a hospital's financial situation becomes less liquid, it generally has greater difficulty meeting its current obligations which, in turn, jeopardizes its credit standing.

Industry Findings

- Overall liquidity improved.
- Days Cash on Hand (short-term) and Days Cash on Hand (all sources) both increased, indicating a favorable trend.
- The Current Ratio increased, also a

favorable trend.

- Days in Accounts Receivable has decreased slightly, indicating that hospitals generally have improved their collection processes.
- Average Pay Period increased slightly, indicating that on an industry-wide basis, hospitals are taking longer to pay their bills. This figure is below the Northeast median, however.

(See Figure 7)

Solvency (Capital Structure)

This area of financial performance is particularly important to long-term creditors and bond rating agencies, as Solvency

Figure 7. Massachusetts Acute Hospital Industry Median Liquidity Indicators, FY97-FY00

<i>Liquidity</i>	FY97 (N=76)	FY98 (N=75)	FY99 (N=72)	FY00 (N=68)	Northeast Median FY00	National Median FY00
Days Cash on Hand (short-term)	77.90	61.90	58.00	63.30	24.70	22.40
Days Cash on Hand (all sources)	126.30	107.80	88.20	88.60	101.30	94.90
Current Ratio	1.44	1.32	1.50	1.48	1.57	2.00
Days in Accounts Receivable	61.13	60.27	65.55	63.09	63.90	67.3
Average Payment Period (in days)	59.89	60.43	56.58	59.30	68.40	58.00

(Capital Structure) Ratios determine an entity's ability to carry debt or increase its amount of debt financing. Thus, values for these ratios may determine the amount of funding available to an institution, and hence, its rate of growth.

Cash Flow to Total Debt Ratio expresses the relationship between the hospital's sources of funds (excluding financing) and levels of indebtedness. Defined as the percentage of cash flow to total liabilities, current and long-term, this indicator has been found to be an important predictor of future financial problems or insolvency. A

worsening Cash Flow to Total Debt Ratio can indicate a problem in paying future debt requirements.

Debt Service Coverage Ratio (Total) measures the ability to cover current debt obligation. A ratio of one (1) indicates that average income would just cover current interest and principal payments on long-term debt for that year. A value less than one (1) can signal financial trouble. There is a clear association between Debt Service Coverage and Standard & Poor's bond rating categories. A higher value for Debt Service Coverage results in a better bond rating.

Equity Financing Ratio measures the percent of a hospital's Capital Structure that is equity (as opposed to debt, which must be repaid). High values for this ratio imply that the hospital has used little debt financing in acquiring assets and has relatively low financial leverage.

Fund Balance (Net Assets) & Changes Period-to-Period — Fund Balance is another term for net assets (a balance sheet item). A decline in Fund Balance can suggest that a hospital is using its Fund Balances to subsidize poor operating performance.

Figure 8. Massachusetts Acute Hospital Industry Median Solvency (Capital Structure) Indicators, FY97-FY00

<i>Solvency (Capital Structure)</i>	FY97 (N=76)	FY98 (N=75)	FY99 (N=72)	FY00 (N=68)	Northeast Median FY00	National Median FY00
Cash Flow to Total Debt	16.7%	12.4%	11.9%	11.5%	16.7%	21.7%
Debt Service Coverage (Operations)	1.01	1.56	1.50	1.49		
Debt Service Coverage (Total)	1.71	2.21	2.25	2.42	3.05	3.74
Fund Balance % change		-5.3%	5.1%	12.2%		
Total Fund Balance	\$5,452,868,766	5,165,977,293	5,430,298,084	6,094,199,256		
Equity Financing Ratio	0.367	0.338	0.336	0.367	0.532	0.602
Average Age of Plant⁸	9.92 years	10.23	10.12	9.82	9.94	9.39

Average Age of Plant is a ratio that measures the speed with which hospitals replace their fixed assets. Hospitals with lower Average Age of Plant are replacing their assets more quickly, enabling higher levels of technology and/or efficiency.

Industry Findings:

- Solvency (Capital Structure) ratios improved or remained unchanged from the previous year. Hospitals financed more of their assets from equity as opposed to debt, demonstrated by the

increase in the Equity Financing Ratio. In addition, Fund Balance increased 12% between FY99 and FY00.

- The Equity Financing Ratio increased indicating that hospitals relied more on equity than debt for financing their assets.
- Cash Flow to Total Debt continued its four-year decline.
- Massachusetts acute hospitals continued to be more highly leveraged than those in the Northeast region, and the nation as a whole. The median Equity Financing

Ratio for Massachusetts hospitals fell well below the National and the Northeast medians, implying reliance on relatively high levels of debt financing.⁷

- Continuing a four-year trend, the Debt Service Coverage Ratio (Total) increased, showing the industry's improved ability to cover debt.
- On average, Massachusetts hospitals' age of physical plant is comparable to Average Age of Plant for Northeast hospitals.

(See Figure 8)

Summary

On an industry-wide basis, profitability continued to decline in FY00, as indicated by decreasing median Total, Operating, and Non-operating Margins. Although it may be misleading that the Total Margin decreased while the Total Surplus increased, it is important to note that these numbers were calculated differently. The Total Surplus (Deficit) for the industry is the *sum* of each individual hospital's Surplus (Deficit), while the Total Margin statistic is the *median* value which gives equal weight to each hospital's financial performance, regardless of its size. For this reason, the Division considered it to be the most appropriate measure of industry-wide performance.

On a favorable note, hospitals financed more of their assets from equity as opposed

to debt (seen in the increase in the Equity Financing Ratio). In addition, Fund Balance increased 12% from FY99 to FY00. Despite these improvements, Cash Flow to Total Debt continued to decline, reflecting the continued decline in profitability. Overall, the Massachusetts industry has higher levels of debt and lower levels of profitability than the Northeast cohort. Liquidity indicators remained relatively stable over the past year. In addition, Average Age of Plant declined slightly for the industry.

Comparing Teaching and Non-teaching Hospitals

Compared with national averages, Massachusetts has a higher percentage of teaching hospitals overall. Utilization of teaching hospitals is also higher in Massachusetts compared with national averages.⁹ Teaching and non-teaching hospitals have important differences with regard to overall capital structure, revenue, cost trends, and other factors influencing financial health.

The section which follows provides a comparative view of the state's teaching and non-teaching acute care hospitals. Similar to the previous sections of the report, this one examines financial performance across the areas of Profitability, Liquidity, and Solvency.

For the purpose of analysis, the Division categorizes the following hospitals as

teaching hospitals:¹⁰

1. Baystate Medical Center
2. Berkshire Medical Center
3. Beth Israel Deaconess Medical Center
4. Boston Medical Center
5. Brigham and Women's Hospital
6. Cambridge Hospital
7. Carney Hospital
8. Children's Medical Center
9. Dana Farber Cancer Institute
10. Faulkner Hospital
11. Lahey Clinic Hospital
12. Massachusetts Eye and Ear Infirmary
13. Massachusetts General Hospital (MGH)
14. Mount Auburn Hospital
15. New England Medical Center (NEMC)
16. St. Elizabeth's Medical Center
17. Saint Vincent Hospital
18. UMass Medical Center

The remaining acute care hospitals are classified by the Division as non-teaching.

Profitability

Both teaching and non-teaching hospitals continued to experience decreasing Total Margins in FY00. With regard to non-teaching hospitals, the Total Margin decline may be leveling off (between FY99 and FY00, Total Margin declined by only 0.1%). This reflects the slight rise in the

Operating Margin in FY00 even as Non-operating Revenue continued to fall. In contrast, teaching hospitals experienced a drop in Operating Margin and an increase in Non-operating Margin. While the increase in Non-operating Margin was used to defray operating losses, this increase could not compensate for the teaching hospitals' large operating losses. The median Total Margin for teaching hospitals was negative in FY00. One teaching hospital had an extremely low value for Total Margin.

When this outlying value is removed, the Median Total Margin for the group remains positive (albeit close to zero).

(See Figures 9 and 10)

In FY00, non-teaching hospitals fared better than teaching hospitals with regard to median Total and Operating Margins. However, the teaching hospital group had a higher median Non-operating Margin in FY00.

(See Figure 11)

Figure 9. Non-teaching Hospital Median Margin Trends, FY97-FY00

Margins	FY97	FY98	FY99	FY00	3-Year Average	Northeast Median 2000	National Median 2000
Total	3.60%	2.20%	1.30%	1.20%	1.6%	2.3%	3.3%
Operating	0.90%	-1.10%	-0.90%	-0.60%	-0.9%		
Non-operating	2.30%	2.20%	2.30%	1.50%	2.0%		

Figure 10. Teaching Hospital Median Margin Trends, FY97-FY00

Margins	FY97	FY98	FY99	FY00	3-Year Average	Northeast Median 2000	National Median 2000
Total	3.70%	1.60%	0.70%	-0.10%	0.7%	2.3%	3.3%
Operating	0.20%	-2.10%	-1.60%	-1.80%	-1.8%		
Non-operating	1.50%	3.10%	1.60%	2.60%	2.5%		

The non-teaching and teaching hospital groups are very similar with regard to proportion of hospitals with negative margins. In addition, there has been little change in these proportions between FY99 and FY00.

(See Figures 12 and 13)

Liquidity

As a group, non-teaching hospitals have fewer Days Cash on Hand (all sources) than teaching hospitals. For both groups, Days Cash on Hand (all sources) declined in FY00. In both cases, this decrease was the continuation of a four-year trend. Average Payment Period Ratio was nearly identical for both groups (approximately 51 days). For non-teaching hospitals, this measure remained fairly stable over four years (FY97-FY00). In contrast, for teaching hospitals, Average Payment Period declined slightly between FY97 and FY00. The Current Ratio was slightly higher for the non-teaching group compared with the teaching group. The indicator, Days in Accounts Receivable, was lower for non-teaching hospitals compared to teaching hospitals in FY00. In the case of teaching hospitals, this indicator fell slightly between FY99 and FY00, a favorable trend.

(See Figures 14 and 15)

Figure 11. Comparison of Margins by Hospital Type, FY00

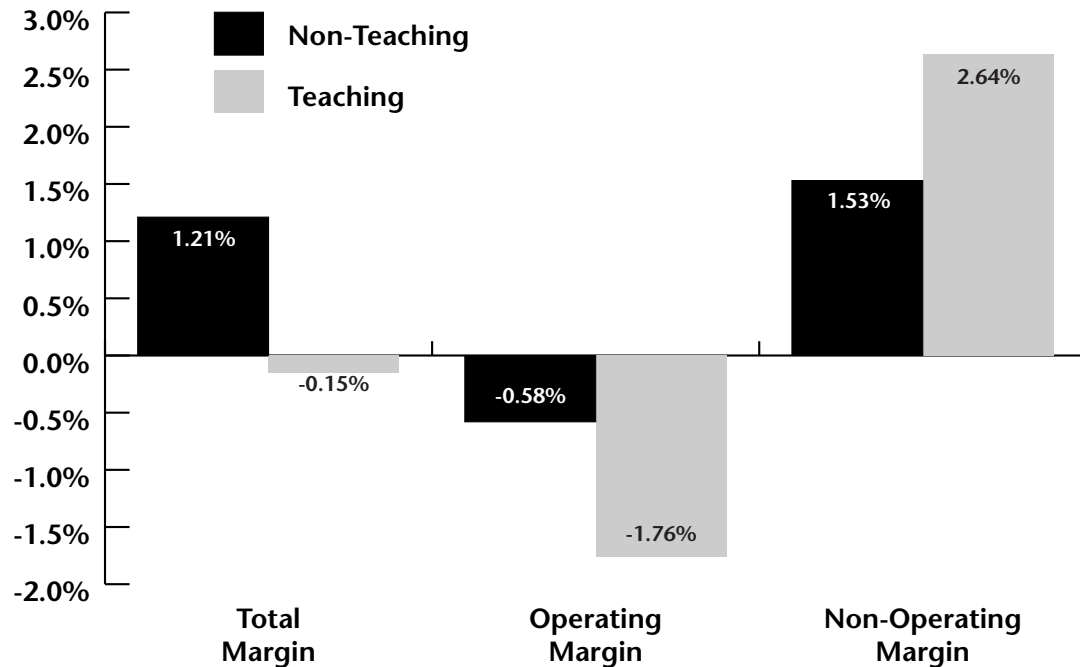


Figure 12. Massachusetts Teaching Hospitals with Negative Total and Operation Margins, FY99 and FY00

Teaching	Total Margin				Operating Margin			
	FY99		FY00		FY99		FY00	
	Count	%	Count	%	Count	%	Count	%
# with Negative Margins	7	38.9%	9	50.0%	11	61.1%	11	61.1%
# with Positive Margins	11	61.1%	9	50.0%	7	38.9%	7	38.9%
TOTAL	18	100.0%	18	100.0%	18	100.0%	18	100.0%

Figure 13. Massachusetts Non-teaching Hospitals with Negative Total and Operation Margin, FY99 and FY00

Non-teaching	Total Margin				Operating Margin			
	FY99		FY00		FY99		FY00	
	Count	%	Count	%	Count	%	Count	%
# with Negative Margins	15	30.0%	17	34.0%	30	60.0%	31	62.0%
# with Positive Margins	35	70.0%	33	66.0%	20	40.0%	19	38.0%
TOTAL	50	100.0%	50	100.0%	50	100.0%	50	100.0%

Solvency (Capital Structure)

On average, non-teaching hospitals carry less debt than teaching hospitals, as indicated by their higher median equity financing ratio. Non-teaching hospitals reported a median increase in Debt Service

Coverage ratios between FY97 and FY00, while teaching hospitals reported declining Debt Service Coverage ratios in both FY99 and FY00. Both groups of hospitals can cover interest and current debt payments almost twice over, however. For both hospital groups, the Equity Financing ratio

increased over the past year indicating a decrease in debt levels.

Average Age of Plant is younger for teaching hospitals compared with non-teaching hospitals.

(See Figures 16 and 17)

Figure 14. Teaching Hospital Median Liquidity Trends, FY97-FY00

Liquidity Teaching (n=18)	FY97	FY98	FY99	FY00	3-Year Average	Northeast Median 2000	National Median 2000
Days Cash on Hand (short-term)	13.1	20.7	7.6	13.3	13.9	24.7	22.4
Days Cash on Hand (all sources)	95.9	81.7	76.4	62.7	73.6	101.3	94.9
Current Ratio (with assets whose use is limited)	1.43	1.25	1.41	1.37	1.3	1.57	2.00
Days in Accounts Receivable	64.60	61.50	72.32	67.31	67.04	63.9	67.3
Average Payment Period (in days)	62.50	69.08	56.03	58.80	61.30	68.4	58.0

Figure 15. Non-teaching Hospital Median Liquidity Trends, FY97-FY00

Liquidity Non-teaching (N=50)	FY97	FY98	FY99	FY00	3-Year Average	Northeast Median 2000	National Median 2000
Days Cash on Hand (short-term)	15.8	13.3	14.2	10.8	12.8	24.7	22.4
Days Cash on Hand (all sources)	63.0	50.6	42.7	28.5	40.6	101.3	94.9
Current Ratio (with assets whose use is limited)	1.44	1.36	1.52	1.51	1.5	1.57	2.00
Days in Accounts Receivable	60.25	59.95	61.77	61.60	61.11	63.9	67.3
Average Payment Period (in days)	57.52	57.88	57.19	60.06	58.37	68.4	58.0

Figure 16. Teaching Hospital Median Solvency Trends, FY97-FY00

Solvency (Capital Structure) Teaching (n=18)	FY97	FY98	FY99	FY00	3-Year Average	Northeast Median 2000	National Median 2000
Cash Flow to Total Debt	15.3%	10.3%	9.3%	9.9%	9.8%	16.7%	21.7%
Debt Service Coverage Operations	0.61	1.43	1.79	1.42	1.54		
Debt Service Coverage Total	1.39	2.36	2.26	2.14	2.25	3.05	3.74
Fund Balance % Change		-4%	6%	42%	15%		
Total Fund Balance	\$119,768,437	115,420,323	122,690,632	174,311,841	137,474,265		
Equity Financing Ratio	0.35	0.31	0.30	0.34	0.32	0.532	0.602
Average Age of Plant	9.81 years	9.58	8.98	9.11	9.11	9.94	9.39

Figure 17. Non-teaching Hospital Median Solvency Trends, FY97-FY00

Solvency (Capital Structure) Non-Teaching (n=50)	FY97	FY98	FY99	FY00 Average	3-Year Median 2000	Northeast Median 2000	National
Cash Flow to Total Debt	17.3%	12.6%	12.8%	11.9%	12.4%	16.7%	21.7%
Debt Service Coverage Operations	1.14	1.61	1.19	1.49	1.43		
Debt Service Coverage Total	1.71	2.21	2.25	2.42	2.29	3.05	3.74
Fund Balance % Change		9%	-10%	19%	6%		
Total Fund Balance	\$23,747,472	25,908,660	23,387,635	27,727,542	25,674,612		
Equity Financing Ratio	0.38	0.35	0.34	0.37	0.35	0.532	0.602
Average Age of Plant	9.99 years	10.38	10.53	10.66	10.5	9.94	9.39

Figure 18. Comparative Volume and Case Mix Statistics for Teaching and Non-teaching Hospitals¹¹

	FY97	FY98	FY99	FY00	% change FY99-FY00
All Acute Hospitals					
Discharges	766,866	769,410	774,897	790,619	2.03%
Length of Stay	5.0919	4.9662	4.9471	4.8796	-1.36%
Total Patient Days	3,904,830	3,821,028	3,833,509	3,857,929	0.64%
Mean Case Mix Index ¹²	1.0449	1.0392	1.0335	1.0280	-0.53%
Non-teaching					
Discharges	429,660	427,269	421,462	429,771	1.97%
Length of Stay	4.8133	4.7745	4.7922	4.6773	-2.40%
Total Patient Days	2,068,101	2,040,016	2,019,724	2,010,150	-0.47%
Mean Case Mix Index	0.9621	0.9600	0.9671	0.9617	-0.56%
Teaching					
Discharges	337,206	342,141	353,435	360,848	2.10%
Length of Stay	5.4469	5.2055	5.1319	5.1207	-0.22%
Total Patient Days	1,836,731	1,781,013	1,813,785	1,847,779	1.87%
Mean Case Mix Index	1.2852	1.2845	1.2469	1.2455	-0.11%

Appendix A

Financial Indicator Definitions

Profitability

<i>Indicator</i>	<i>Formula</i>	<i>Explanation</i>
Operating Margin	Operating Revenue less Operating Expenses divided by Total Revenue	A measure of the gains or losses from a hospital's operations
Non-operating Margin	Non-operating Gains divided by Total Revenue	An important measure to consider because Non-operating Gains can be used to subsidize eroding Operating Margins
Total Margin	Total Revenue less Total Expenses divided by Total Revenue	The hospital's overall gains or losses

Liquidity

<i>Indicator</i>	<i>Formula</i>	<i>Explanation</i>
Current Ratio	Total Current Assets divided by Total Current Liabilities	Represents a hospital's ability to meet its current liabilities
Days in Accounts Receivable with Third-party Settlements	(Net Patient Accounts Receivable and Premium Revenue plus 3rd-party Settlements Receivable minus Estimated 3rd-party Settlements) divided by (Net Patient Service Revenue divided by 365)	Indicates the number of days in the average collection period, adjusted for estimates of amounts due to/from third parties
Average Payment Period	(Current Liabilities less Estimated 3rd-party Settlements) divided by [(Total Expenses (Depreciation and Amortization)) divided by 365]	The length of time it takes the hospital to pay its obligations (This calculation does not include 3rd-party settlement).
Days Cash on Hand (short-term)	(Cash & Cash Equivalents plus Short-term Investments plus Assets whose use is limited) divided by [(Other Expenses plus Interest) divided by 365]	The number of days the hospital can meet its average daily expenditures with cash & marketable securities and current assets whose use is limited
Days Cash on Hand (all sources)	(Cash and Equivalents plus Short-term Investments plus Current and Non-current Assets limited as to use) divided by [(Other Operating Expense plus Interest) divided by 365]	The number of days the hospital can meet its average daily expenditures with cash, marketable securities, current and non-current assets whose use is limited

Solvency (Capital Structure)

<i>Indicator</i>	<i>Formula</i>	<i>Explanation</i>
Equity Financing Ratio	Net Assets divided by Total Assets	Percentage of a hospital's assets that are financed with other than debt
Cash Flow to Total Debt	Excess of Revenues, Gains, and Other Support over Expenses plus Depreciation & Amortization divided by (Total Current Liabilities plus Long-term Debt-net of Current Portion)	Excellent predictor of financial failure; can indicate a potential problem in paying future debt requirements
Debt Service Coverage (Operations)	(Operating Income plus Interest plus Depreciation & Amortization) divided by (Interest plus Current Long-term Debt)	Measures the hospital's ability to pay off both interest and Principle Debt with Operating Gains
Debt Service Coverage (Total)	(Excess of Revenues, Gains, and Other Support over Expenses plus Interest plus Depreciation & Amortization) divided by (Interest plus Current Long-term Debt)	Measures the hospital's ability to pay off both Interest and Principle Debt with Total Gains
Fund Balance (Net Assets) & Fund Changes Period-to-Period	Total Net Assets	Can indicate whether hospitals are using their Balances to subsidize poor operating performance
Average Age of Plant	Accumulated Depreciation divided by Depreciation Expense	Measures (in years) the speed with which hospitals replace their fixed assets

Appendix B

Median Financial Performance Indicators FY97-FY00

Profitability

	FY97 (N=76)	FY98 (N=75)	FY99 (N=72)	FY00 (N=68)	Northeast Median FY00	National Median FY00
Total Margin	3.58%	2.03%	1.16%	0.88%	2.3%	3.3%
Operating Margin	0.66%	-1.52%	-1.07%	-1.37%		
Non-operating Margin	2.12%	2.38%	2.02%	1.87%		

Liquidity

	FY97 (N=76)	FY98 (N=75)	FY99 (N=72)	FY00 (N=68)	Northeast Median FY00	National Median FY00
Days Cash on Hand (short-term)	77.9	61.9	58.0	63.3	24.7	22.4
Days Cash on Hand (all sources)	126.3	107.8	88.2	88.6	101.3	94.9
Current Ratio	1.44	1.32	1.50	1.48	1.57	2.00
Days in Accounts Receivable	62.3	62.1	67.4	63.3	63.9	67.3
Average Payment Period (in days)	59.89	60.43	56.58	59.30	68.4	58.0

Solvency (Capital Structure)

	FY97 (N=76)	FY98 (N=75)	FY99 (N=72)	FY00 (N=68)	Northeast Median FY00	National Median FY00
Cash Flow to Total Debt	16.7%	12.4%	11.9%	11.5%	16.7%	21.7%
Debt Service Coverage (Operations)	1.01	1.56	1.50	1.49		
Debt Service Coverage (Total)	1.71	2.21	2.25	2.42	3.05	3.74
Fund Balance % Change		-5.3%	5.1%	12.2%		
Total Fund Balance	\$5,452,868,766	5,165,977,293	5,430,298,084	6,094,199,256		
Equity Financing Ratio	0.367	0.338	0.336	0.367	0.532	0.602
Average Age of Plant	9.92 years	10.23	10.12	9.82	9.94	9.39

Appendix C

View By System, FY00

	Total Margin	Operating Margin
Baystate Health Systems		
Franklin	-4.2%	-5.2%
Mary Lane	4.4%	-3.2%
Baystate	5.2%	3.6%
<u># of hospitals with negative margin</u> all hospitals in affiliated group	1/3	2/3
Berkshire		
Fairview	1.0%	-0.4%
Berkshire	5.6%	2.8%
<u># of hospitals with negative margin</u> all hospitals in affiliated group	0/2	1/2

	Total Margin	Operating Margin
Caregroup		
Beth Israel Deaconess	-5.7%	-10.5%
Deaconess-Waltham	-4.5%	-7.4%
Deaconess-Glover	-4.0%	-4.9%
Deaconess-Nashoba	-0.4%	-0.4%
NE Baptist	3.9%	-1.7%
Mount Auburn	5.6%	2.4%
<u># of hospitals with negative margin</u> all hospitals in affiliated group	4/6	5/6
Caritas		
Caritas Good Samaritan	-7.8%	-9.0%
Norwood	-2.7%	-3.4%
Carney	-2.5%	-3.5%
St. Elizabeth's	-0.7%	-1.4%
Holy Family	4.7%	5.1%
St. Anne's	6.3%	5.6%
<u># of hospitals with negative margin</u> all hospitals in affiliated group	4/6	4/6
Partners		
Faulkner	-2.4%	-11.9%
Newton-Wellesley	-0.8%	-14.2%
Brigham and Women's	1.9%	0.6%
Northshore Medical	5.1%	2.4%
Union (AtlantiCare)	5.2%	4.0%
Mass. General Hospital (MGH)	7.3%	2.5%
Dana Farber	8.2%	-13.2%
<u># of hospitals with negative margin</u> all hospitals in affiliated group	2/7	3/7

	Total Margin	Operating Margin
UMass Health Systems		
Hubbard	-10.5%	-10.6%
Marlborough	-1.4%	-2.1%
UMass. Medical Center (UMMC)	-0.4%	-4.2%
Noble	0.3%	-0.2%
Wing	0.4%	0.3%
Holyoke	1.4%	0.8%
Athol	1.8%	0.4%
HealthAlliance	1.9%	-1.4%
Clinton	2.2%	-0.8%
Milford-Whitinsville	8.2%	8.2%
Harrington	10.3%	0.8%
<u># of hospitals with negative margin</u> all hospitals in affiliated group	3/11	6/11
Tenet		
St. Vincent	-21.3%	-11.7%
MetroWest	-3.9%	-1.3%
<u># of hospitals with negative margin</u> all hospitals in affiliated group	2/2	2/2

Appendix D

Data Source

The Division has required every Massachusetts acute care hospital to submit a cost report (DHCFP-403) each fiscal year. The 403 contains fiscal year hospital data, including data from the hospital's standardized financial statements. The report is due 120 days after the hospital's fiscal year end, typically September 30th. This is considered the "as filed" version. The Division performs a limited desk review of each hospital's 403. This review does not constitute an audit.

Acute Care Hospitals - FY00¹³

Anna Jaques	Franklin	Nantucket
Athol	Hallmark	NE Baptist
Baystate	Harrington	New England Medical (NEMC)
Berkshire	Haverhill	Newton-Wellesley
Beth Israel Deaconess	HealthAlliance	Noble
Boston Medical	Henry Heywood	North Adams
Brigham and Women's	Holy Family	Northeast Health Systems
Brockton	Holyoke	Norwood
Cambridge	Hubbard	Quincy
Cape Cod	Jordan	St. Anne's
Carney	Lahey	St. Elizabeth's
Children's	Lawrence General	Saints Memorial
Clinton	Lowell General	St. Vincent
Cooley Dickinson	Marlborough	Salem
Dana Farber	Martha's Vineyard	Samaritan
Deaconess-Glover	Mary Lane	South Shore
Deaconess-Nashoba	Mass. Eye and Ear	Southcoast Health System
Deaconess-Waltham	Mass. General (MGH)	Sturdy Memorial
Emerson	Mercy	UMass Medical (UMMC)
Fairview	Metro West	Whidden
Falmouth	Milford-Whitinsville	Winchester
Faulkner	Milton	Wing
	Morton	
	Mount Auburn	

Endnotes

1. “Profitability” refers to the difference between revenue and expenses in addition to non-operating gains and losses. Although a “not-for-profit” may make a “profit,” it does not distribute its profit to individuals or shareholders like a for-profit organization might. The vast majority of Massachusetts acute care hospitals are private and not-for-profit (i.e., non-government entities organized for the sole purpose of providing health care).

2. *2002 Almanac of Hospital Financial & Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals* (Ohio: Ingelix Publishing Group/CHIPS, 2002).

3. Net Patient Service Revenue plus Premium Revenue.

4. While not broken out in the data provided, salaries (and wages) paid to employees are usually the largest category of expenses for hospitals. In many hospitals, salaries make up 60 percent of total expenses.

5. Supplies usually make up the second largest category of hospital expenses, after salaries.

6. *2002 Almanac*.

7. The Equity Financing Ratio measures the percentage of total assets that has been financed with equity (as opposed to debt, which must be repaid). High values for this ratio imply that a hospital has used little debt financing in acquiring

ing assets and has relatively low financial leverage.

8. The “Average Age of Plant” indicator is not a measure of Solvency (Capital Structure), but is grouped here for convenience.

9. *Commonwealth of Massachusetts Healthcare Task Force Report: Initial Findings on Hospitals*, (Boston: Massachusetts Division of Health Care Finance and Policy, June 12, 2000).

10. A major teaching hospital is one with at least 25 FTE medical residents per 100 inpatient beds, according to the

Medicare Payment Advisory Commission (MedPAC). Some organizations may use a slightly different list of teaching hospitals than that presented here. The DHCFP list is almost identical to that used by the Massachusetts Hospital Association.

11. *Year 2000 Hospital Case Mix Database* (Boston: Division of Healthcare Finance and Policy, 2000).

12. “Case Mix Index” is calculated using APD V12 Grouper and MA weights.

13. The total number of acute care hospitals analyzed for FY00 was 68.